KOROVIN, N.V.; NESTEROV, B.P.

Apparatus for investigating electrochemical processes by the voltammetry method with continuous variation of the potential. Elektrokhimiia 1 no.12:1474-1476 D '65.

(MIRA 19:1)

1. Moskovskiy energeticheskiy institut. Submitted February 25, 1965.

NESTEROV, B.P.; KOROVIN, N.V.

Effect of hydrazine on the anodic oxidation of nickel in an alkaline solution. Zashch.met. 1 no.6:658-661 N-D '65.
(MIRA 18:11)

1. Moskovskiy energeticheskiy institut.

L 23872-66 EWT(m)/EWP(t) IJP(c) JD/WW/JW/HW/WB

ACC NR: AP6008622 SOURCE CODE: UR/0365/65/001/006/0658/0661

AUTHORS: Nesterov, B. P.; Korovin, N. V. 35 B

ORG: Moscow Institute for Power Engineering (Moskovskiy energeticheskiy institut)

TITLE: Effect of hydrazine upon anodic oxidation of nickel in an alkaline solution

SOURCE: Zashchita metallov, v. 1, no. 6, 1965, 658-661 19 27

TOPIC TAGS: anodic oxidation, nickel, hydrazine

ABSTRACT: Anodic oxidation of nickel in an alkaline solution and the effect of hydrazine upon the process have been investigated by voltamperometry. The method was described by N. V. Korovin and B. N. Nesterov (Elektrokhimiya, 1, 1965). It was established that oxidation of Ni to Ni^{2+} occurs under conditions represented by the area under voltamperic curves preceding the first maximum. Thermodynamic calculations indicate that nickel dioxide (formed in the regions of the potentials of the second current drop) inhibits the anodic processes. Introduction of $<10^{-4}$ molar solutions of hydrazine inhibits anodic current, but higher concentrations (10^{-3} molar and above) increase the current at the expense of the oxidation of hydrazine to nitrogen, according to the equation

$$N_2H_4 + 4OH^- = N_2 + 4H_2O + 4e^-.$$

These phenomena are illustrated in Fig. 1. The authors express their gratitude to Ya. M. Kolotyrkin and N. Ya. Bune for evaluating the results and for their valuable information and advice.

Card 1/2 UDC: 541.138.2
620.197.3

L 23872-66
ACC NR: AP6008622

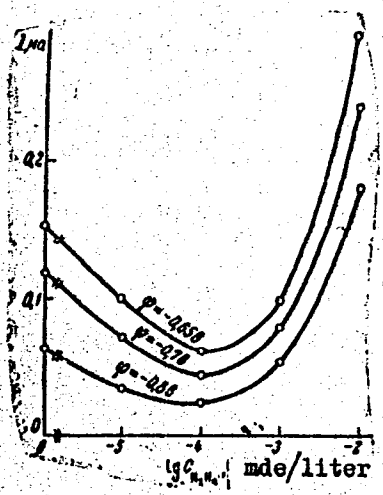

Fig. 1. Anodic current in 6N KOH as a function of hydrazine concentration.

Orig. art. has: 3 figures and 1 equation.

SUB CODE: 07,11 / SUBM DATE: 15Apr65/ ORIG REF: 003/ OTH REF: 004

Card 2/2 dda

ACC NR: AP6036391 (N) SOURCE CODE: UR/0032/66/032/011/1385/1385

AUTHOR: Korovin, N. V.; Panich, R. U.

ORG: Moscow Power Institute (Moskovskiy energeticheskiy institut)

TITLE: Weight method for determination of gas filling of porous electrodes

SOURCE: Zavodskaya laboratoriya, v. 32, no. 11, 1966, 1385

TOPIC TAGS: electrode, test method, nickel, hydrazine

ABSTRACT: A method is described which makes it possible to determine the total amount of gas in porous electrodes, and its change under the influence of various factors. The article shows a diagram of the apparatus used.

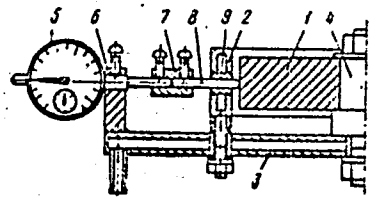

Diagram of apparatus for determination of gas filling of electrodes.

Card 1/2

ACC NR: AP6036391

The value of the gas filling in porous electrodes, v_r, is calculated by the formula:

$$v_r = \frac{\Delta G_i - \Delta G_r}{d_{liq}},$$

where ΔG_i is the change in weight of a porous electrode in an electrolyte at a current density i; ΔG_r is the change in weight of a smooth electrode at the same current density; d_{liq} is specific weight of the electrode. The method can be used to study the gas filling of a porous nickel electrode, with evolution of hydrogen at the cathode, for the anode oxidation of hydrazine (evolution of nitrogen), and for the evolution of oxygen. Orig. art. has: 1 figure.

SUB CODE: 20, 07 SUBM DATE: none/ ORIG REF: 001

Card 2/2

L 18262-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-10 IJP(c)/AEDC(a)/APETR/
ESD/SSD/AFWL/ESD(t)

ACCESSION NR: AP5000910 S/0020/64/159/004/0775/0776

AUTHOR: Komar, A. P. (Academician AN UkrSSR); Korovin, O. P. B

TITLE: High-voltage injection system for betatrons and synchrotrons 19

SOURCE: AN SSSR. Doklady, v. 159, no. 4, 1964, 775-776

TOPIC TAGS: particle accelerator, betatron, synchrotron, high voltage injection

ABSTRACT: The authors first discuss briefly existing methods of high voltage injection and indicate that the optimal pre-acceleration energy is about 2.0 MeV. They then describe an injector in which a microwave resonator is used for ac- [illegible] A diagram of the setup employed is shown in Fig. [illegible] of the enclosure. [illegible] gas lasers were used, elliptic with [illegible] and rectangular. [illegible] were made of 0.3 mm copper and had an [illegible] ~ 7,000. Pre- [illegible] was made of [illegible] [illegible] keV [illegible] capture was obtained [illegible] the [illegible] from [illegible] keV, the gamma-ray intensity increased by approximately one order of magnitude. An advantage of such an injector is that it can be placed very close- ly to the accelerator. Further improvements are planned to inject up to 10^{12}

Card 1/3

L 18262-65

ACCESSION NR: AP5000910

electrons per pulse with energy 500 -- 1000 keV. Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 02Jul64 ENCL: 01

NP NR REF SOV: 004 OTHER: 005

Card 2/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824920007-9"

L 18262-65

ACCESSION NR: AP5000910

ENCLOSURE: 01

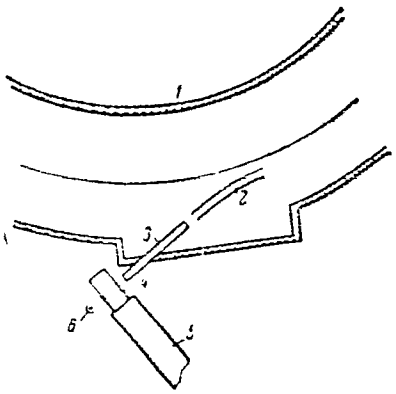

Fig. 1. High-voltage injection system.

1 - Accelerator chamber,
2 - inflector,
3 - magnetic channel,
4 - resonator,
5 - waveguide,
6 - electron gun.

Card 3/3

66188

~~9(2,3), 21(8)~~ 21.2300 SOV/146-59-2-8/23

AUTHORS: Korovin, O.P., Kulikov, A.V., and Chernov, N.N.

TITLE: Stabilization and Control of the Maximum γ-Radiation Energy of 100 meV Synchrotron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - priborostroyeniye, 1959, Nr 2, pp 47-51 (USSR)

ABSTRACT: In order to maintain stability of the maximum γ-radiation energy of a synchrotron, it is necessary that the discharge of electrons on the target take place at one and the same value of magnetic field in the clearance of the accelerator magnet. To this end, it is sufficient to switch out the high-frequency resonator tension in each acceleration cycle, at one and the same value of magnetic field on the equilibrium orbit. On the synchrotron LFTI, the moment of switching off is connected with the magnetic field. In the air clearances of the magnetic circuit (Fig 1), when the accelerator feed current passes, a magnetic field appears, similar, by the time dependence, to the field in the accelerator clearance. For this

Card 1/3

Stabilization and Control of the Maximum γ-Radiation Energy of 100 meV Synchrotron

purpose, the ampereturns are selected so that the induction in the core have the same value, as in the accelerator core. Thus, the possibility for changing the magnetic field "zero" level is created, by using the small magnetic current of the central core; this change is noted by a permalloy transducer. There were two of such magnetic circuits made, by means of which, connection of the high-frequency generator switching on and off moments with the accelerator magnetic field was realized. The components of the circuit were: Iron Sh-50; set thickness - 15 mm; thickness of each plate - 0.3 mm; coil L_1 - 3+3 turns; coil L_2 - 10,000 turns; leads, respectively, S = 20 mm^2 and PE - 0.1. For the magnetic field "zero" transducer, a permalloy tape 0.08 mm thick and 0.5 mm wide was used. Layout of the auxiliary magnetic circuit is shown in Fig 1; magnetic circuit L_2 is fed from the current stabilizer with a stabilization coefficient 0.05%. In order to

66188

SOV/146-59-2-8/23

Stabilization and Control of the Maximum γ-Radiation Energy of 100 meV Synchrotron

increase the stability of maximum energy radiation, a design for stabilization of tension on the accelerator magnet has been worked out; this permitted a further increase in the constancy of energy. Research has disclosed that the maximum γ-radiation energy of synchrotrons, when one and the same current passes through the auxiliary magnetic circuit, varies even over long periods of time (of a monthly order), not more than by 0.8%. Recommended by the Vtoraya mezhvuzovskaya konferentsiya po elektronnym uskoritelyam (2nd Inter-Vuz Conference on Electronic Accelerators). There are 2 graphs, 2 diagrams and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institute AN SSSR (Leningrad Physico-Technical Institute AS USSR)

SUBMITTED: December 30, 1958

Card 3/3

OLESHKO, V.P., inzh.; KOSTYUCHENKO, N.Ye.; KOROVIN, P.A.

Mechanical unloader designed by Korovin. Masl.-zhir.prom. 26 no.7:40-42 Jl 60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for Oleshko, Kostyuchenko). 2. Shebekinskiy kombinat sinteticheskikh zhirnykh kislot i moyushchikh sredstv (for Korovin).
(Oil industries--Equipment and supplies)
(Loading and unloading)

BONDAREV, V.M.; GUBANOV, V.G.; KOROVIN, P.K.; OVCHINNIKOV, A.K.; KHAYKOVICH, I.M.; NIKONOVA, A.I., red.

[Gamma-sampling of uranium ores in their natural occurrence] Gamma-oprobovanie uranovykh rud v estestvennom zaleganii. Moskva, Izd-vo "Nedra," 1964. 204 p.
(MIRA 17:7)

GORTSEV, Vasiliy Ivanovich; KOROVIN, P.P., red.; POPOVA, M.D., tekhn.red.

[Nature of Mordovia] Priroda Mordovii. Saransk, Mordovskoe knizhnoe izd-vo, 1958. 122 p. (MIRA 13:5)
(Mordovia—Physical geography)

LEVITSKAYA, Ye.D.; KOROVIN, P.Ya.; DEVYATKIN, N.A.; IFTINKA, G.A., red. izd-va; RUDAKOVA, N.I., tekhn.red.

[Collection of regulations on wages for workers employed in the construction and building materials industries] Sbornik rukovodiashchikh materialov po oplate truda rabotnikov, zaniatykh v stroitel'stve i promyshlennosti stroitel'nykh materialov. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam. 1961. 563 p. (MIRA 15:5)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.
(Wages—Construction industry)
(Wages—Building materials industry)

05422
8(SOV/107-59-8-42/49

AUTHOR: Korovin, R. (Moskovskaya oblast')

TITLE: Small-Size Variable Capacitors

PERIODICAL: Radio, 1959, Nr 8, p 56 (USSR)

ABSTRACT: The author suggests a simple variable capacitor for pocket-size transistor receivers which may be built by converting ceramic KTK capacitors. As shown in Figure 1, the metal layer composing the outer plate is removed and replaced by a tube made of a copper or brass foil. Shifting the tube along the surface of the ceramic capacitor will change its capacitance. Two or three ceramic capacitor rods may be connected to one variable capacitor. The capacity of such a variable capacitor is one half of the capacity of the original ceramic capacitors. There are 2 diagrams.

Card 1/1

KOROVIN, S., prepodavatel' kursa "Obshchestvovedeniye"

Everyone should have a hobby. Prof.-tekh. obr. 20 no.9:12-13 S '63. (MIRA 16:11)

1. Gorodskoye professional'no-tekhnicheskoye uchilishche No.7, g. Novosibirsk.

L 47306-66
ACC NR: AP6030917 SOURCE CODE: UR/0018/66/000/009/0107/0113

AUTHOR: Korovin, S. (Lieutenant colonel)

ORG: none

TITLE: Training camp (Military training area at military school)

SOURCE: Voyennyy vestnik, no. 9, 1966, 107-113

TOPIC TAGS: military training, military school, firing range, tank, grenade, artillery weapon

ABSTRACT: The article describes in detail the layout and type of activity of several training complexes in a military school, the location and name of which are not given. The whole training area is shown on a sketch presented in the original article. The complexes, three of which are said to be completed, are intended to operate on the scale of a motorized rifle company of the armed forces. Each complex includes various sectors and also firing ranges for artillery, tanks, and other weapons. The author stresses the originality and usefulness of the single remote-control post for all the firing ranges, and two photos in the original article show the exterior and the interior of the control post. Orig. art. has: 4 figures.

SUB CODE: 05, 15, 19/ SUBM DATE: none/ [GC]

Card 1/1 afs

KOROVIN, S.S

BOL'SHAKOV, K.A.; KOROVIN, S.S.; PLYUSHCHEV, V.Ye.; YERMAKOVA, T.A.

Solubility analysis of $UO_2C_2O_4$--$H_2C_2O_4$--H_2O systems. Zhur. neorg. khim. 2 no.1:222-228 Ja '57. (MLRA 10:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.
(Uranyl oxalate) (Oxalic acid) (Systems (Chemistry))

...of crystal... $CsCl$; $4CsCl \cdot CaCl_2$; $2CsCl \cdot CaCl_2$; ... $CsCl \cdot CaCl_2$, and $CaCl_2 \cdot 6H_2O$ at 25°; ... $2H_2O$ (at 50 and 75°). The existence of the compds $5Cs$-

$Cl_2 \cdot CaCl_2$ and $2CsCl_2 \cdot CaCl_2 \cdot 2H_2O$ was established. The double salts that are formed in this substance were subjected to optical and x-ray analysis. — J. Rovtar Leach

KOROVIN, S.S.

BOL'SHAKOV, K.A.; KOROVIN, S.S.

Solubility in the quaternary mutual system $UO_2(NO_3)_2$ $H_2C_2O_4$ $UO_2C_2O_4$ $H_2(NO_3)_2$ at 25°. Zhur. neorg. khim. 2 no.8:1940-1950 Ag '57. (MIRA 11:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

(Solubility) (Systems (Chemistry))

PLYUSHCHEV, V.Ye.; TULINOVA, V.B.; KUZNETSOVA, G.P.; KOROVIN, S.S.
SHIPETINA, N.S.:

Investigating the ternary system sodium chloride -- cesium chloride --water. Zhur. neorg. khim. 2 no.11:2654-2660 N '57.
(MIRA 11:3)

1.Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.I. Kalinina.
(Sodium chloride) (Cesium chloride)

KOROVIN, S.S.

PLYUSHCHEV, V.Ye.; TULINOVA, V.B.; KUZNETSOVA, G.P.; KOROVIN, S.S.; PETROVA, R.G.

Studying the system CsCl - $CaCl_2$ - H_2O. Zhur.neorg.khim. 2 no.9:2212-2220 S '57. (MIRA 10:12)

1.Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

(Caesium chloride) (Calcium chloride)

67985

5.2200(A) SOV/81-59-12-41611

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 12, p 55 (USSR)

AUTHORS: Bol'shakov, K.A., Korovin, S.S.

TITLE: The Solubility of Uranyl Oxalate in Nitric Acid

PERIODICAL: Tr. Mosk. in-ta tonkoy khim. tekhnol., 1958, Nr 7, pp 165-170

ABSTRACT: The solubility of uranyl oxalate (I) in HNO_3 at 25 and 50°C has been studied by the isothermal method. It has been established that the solubility of I is considerably increased with an increase in the concentration of the acid. HNO_3 dehydrates the 3-water crystal-hydrate; at 25°C and HNO_3 concentrations of $\geq$ 48.5 weight percent, $UO_2C_2O_4 \cdot H_2O$ crystallizes and at 50°C and HNO_3 concentrations of $>$ 47.20% the crystallization of the salt with a smaller quantity of crystallization water than in the trihydrate takes place.

Authors' summary

Card 1/1

KOROVIN, S.S.; GRIBENIK, Ye.N.; KOMISSAROVA, L.N.

Extraction of hafnium with tributyl phosphate. Zhur. neorg. khim. 5 no.8:1876-1881 Ag '60. (MIRA 13:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova, Kafedra tekhnologii redkikh i rasseyanykh elementov.

(Butyl phosphate) (Hafnium--Analysis)

KOROVIN, S.S.; IVANOVA, R.V.; SAAKOVA, O.V.; BOL'SHAKOV, K.A.

Extraction of gallium from the sulfuric acid solutions by butyl acetate. Zhur. prikl. khim. 34 no.5:1007-1012 My '61. (MIRA 16:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova.

(Gallium) (Sulfuric acid) (Acetic acid)

S/081/62/000/002/029/107
B151/B108

AUTHORS: Rosyanov, S. P., Kopycheva, N. K., Musakin, A. P.

TITLE: Separation of thorium and cerium by extraction of their salicylates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 139, abstract 2D25 (Tr. Leningr. tekhnol. in-ta im. Lensoveta, no. 55, 1961, 108-112)

TEXT: The effects of a number of factors (acidity of the aqueous phase and concentration of NH_4NO_3, of diethyl ether (I), and sodium salicylate) on the results of the extraction of Th and Ce salicylates by mixtures of ethyl acetate (II) and (I) from aqueous solutions containing NH_4NO_3 and CH_3COOH, with a volume ratio of organic to aqueous phases of 3:1, were studied. (II) extracts Th almost quantitatively with a single extraction but a considerable amount of Ce is also extracted at the same time. Raising the concentration of CH_3COOH in the aqueous phase considerably decreases the degree of extraction (DE) of Th and Ce by (II) (with

Card 1/2

Card 2/2

S/828/62/000/000/002/017
E039/E420

AUTHORS: Korovin, S.S., Reznik, A.M., Apraksin, I.A.

TITLE: The extraction of zirconium and hafnium in a mixer-settler column

SOURCE: Razdeleniye blizkikh po svoystvam redkikh metallov. Mezhvuz. konfer. po metodam razdel. blizkikh po svoyst. red. metallov. Moscow, Metallurgizdat, 1962, 42-47

TEXT: This method of extraction, proposed by E.G.Scheibel (Chem. Eng. Progr. 44, 1948, 681: Ind. Eng. Chem., 42, 1950, 1048), is carried out from nitrate-chloride solutions of Zr and Hf by tributylphosphate in orthoxylol. A materials testing programme is described for the selection of constructional materials resistant to nitric and hydrochloric acid solutions containing organic solvents and possessing the necessary mechanical properties. The selected materials are tantalum, titanium, fluoroplast-4, polyethylene and ebonite. The column is constructed from thickwalled glass tubing (56 mm inner diameter, 68 mm outer diameter) height 1600 mm (height of working section 1200 mm)

Card 1/2

and containing 10 mixer-settler units. In the mixer sections are paddles attached to a central vertical shaft. The settler sections are filled with glass Raschig rings 7 x 7 mm. An electric motor is used to drive the central shaft and the speed of rotation can be varied up to 400 rpm. The working solutions are contained in tanks and the flows regulated by means of valves and rotameters. In order to obtain equilibrium conditions it is necessary to pass a volume of working solution equal to 1.5 to 2 times the volume of column; this condition is achieved in a time of about 100 minutes. The effect of the rate of mixing on the percentage extraction of Zr in the organic phase, the total flow rate in the column and the HETP (height of the equivalent theoretical plate) is investigated. With the mixers running at 200 rpm, the total flow-rate is 8.6 $m^3/m^2/h$, the extraction of Zr is 44% and the HETP 2360 mm, while at 400 rpm, the corresponding values are 2 m^3/m^2h, 97.6% and 320 mm. These results are in agreement with the literature. Tests were also carried out with mixer-settler units of 90 mm height (previously 120 mm). In this case the HETP is 350 to 370 mm at 332 rpm.
There are 5 figures and 2 tables.
Card 2/2

35765
S/153/62/005/001/001/001
E075/E136

11.1000

AUTHORS: Reznik, A.M., Korovin, S.S., and Apraksin, I.A.

TITLE: A rotameter for corrosive liquids

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, v.5, no.1, 1962, 176

TEXT: A rotameter capable of withstanding the action of corrosive liquids, such as HCl, HNO_3, organic solvents saturated with acids, etc. was constructed from "ftorplast-4". Leakproof flanges were the most important parts of the rotameter. The plastic end pieces were joined to rotameter tube KT-3 (KT-3) or KT-3A(KT-3A) and the joints sealed with a polythene sleeve. The float, having a standard form and dimensions, was made of tantalum or "ftorplast". Small pieces of tantalum can be sealed in the plastic floats to change their weight. An ebonite needle valve was used for controlling the liquid flow.
There is 1 figure.

Card 1/2

KOROVIN, S.S.; LEBEDEVA, Ye.N.; REZNIK, A.M.; KOMISSAROVA, L.N.; KUZNETSOVA, G.P.

Extraction of zirconium and hafnium with tributyl phosphate. Izv.vys.ucheb.zav.;khim.i khim.tekh. 5 no.2:231-235 '62. (MIRA 15:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova, kafedra tekhnologii redkikh i rasseyannykh elementov.
(Zirconium--Analysis) (Hafnium--Analysis) (Butyl phosphates)

S/153/62/005/004/001/006
E075/E436

AUTHORS: Korovin, S.S., Mironenko, A.P., Reznik, A.M., Komissarova, L.N.

TITLE: Extraction of hydrochloric acid and some elements with acetophenone

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i khimicheskaya tekhnologiya, v.5, no.4, 1962, 553-558

TEXT: The authors investigated the extraction of HCl with acetophenone (AF) and its solution in dichlorethane (4.28 mole/litre) from aqueous solutions. For pure acetophenone negligible amount of HCl is extracted from solutions containing less than 7 mole/litre HCl. The distribution coefficient increases rapidly above this concentration of HCl. It is postulated that monosolvate HCl.AF forms in the organic phase according to the equation

$$H^+ + Cl^- + AF \rightleftharpoons HCl \cdot AF$$

The effective constant K for the complex formation was calculated to be 1×10^{-6}. HCl in the organic phase is ionized. Degree of dissociation α of HCl was calculated to be

Card 1/3

approximately 0.03, 0.48 and 0.88 for 0.28, 2.80 and 4.07 mole/litre HCl respectively using the formula $\alpha = \lambda\eta/60$ where λ is the electrical conductivity and η - viscosity of the solutions. For the extractions with the acetophenone-dichlorethane solution, distribution coefficients for HCl are small even at its very high concentrations. Dissociation of HCl does not occur in the mixed solvents. The latter was used for the extraction of Ca, Ga, Al, Zr, Hf and Fe^{3+} from aqueous solutions of varying acidity. The most extractable elements were Fe and Ga, their distribution coefficients being 34 and 44 respectively for the HCl concentration of 7 mole/litre. Zr and Hf begin to be extracted from the HCl solution of 8 mole/litre, but distribution coefficients are lower than for Ga and Fe. Coefficient of separation of Zr from Hf ($\beta = \alpha_{Zr}/\alpha_{Hf}$) increases with acidity and reaches the maximum value of 5 in 10.3 to 20.5 mole/litre HCl. It was found that the distribution coefficient for Zr decreases from 3.07 to 0.33 and the coefficient for Hf from 0.85 to 0.21, when the temperature of the solution (10.5 mole/litre HCl) increased from 20 to 60°C. There are 4 figures and 4 tables.
Card 2/3

ASSOCIATION: Kafedra tekhnologii redkikh i rasseyannykh elementov, Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova (Department of Rare and Dispersed Elements Technology, Moscow Institute of Fine Chemical Technology imeni M.V.Lomonosov)

SUBMITTED: May 18, 1961

S/078/62/007/006/024/024
B110/B144

AUTHORS: Korovin, S. S., Reznik, A. M., Apraksin, I. A.

TITLE: Extraction of zirconium in the presence of hydrofluoric acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 6, 1962, 1483-1484

TEXT: The extraction of zirconium (0.54 moles/liter) from nitrous solutions (6 moles/liter) in the presence of HF was studied. A 50 % solution of tributyl phosphate in o-xylene was used. Results: (1) Up to the ratio F:Zr=0.5:1, the distribution coefficient α_{Zr} increases to 0.92. (2) At 1:1, the distribution coefficient corresponds to that of the extraction from solutions free of fluorine. (3) At $\geq$3:1, the distribution coefficient decreases to the constant value 0.04. As the extraction rose when the F ion concentration dropped it is supposed that some mixed zirconium nitrate- fluoride complexes may be extractable also. Optimum extraction occurs when the complex contains one F ion. There are 1 figure and 1 table.

Card 1/2

S/078/62/007/010/008/008
B144/B186

AUTHORS: Korovin, S. S., Dedich, K., Lebedeva, Ye. N., Reznik, A. M.

TITLE: Extraction of zirconium and hafnium from mixtures of nitric and perchloride acids by tributyl phosphate

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 10, 1962, 2475-2477

TEXT: Zr and Hf were extracted at a constant total acid concentration of 6 moles/liter and at various HNO_3:$HClO_4$ ratios by using 50 % (1.83 moles per liter) solution of tributyl phosphate (TBP) in o-xylene. The maximum distribution coefficients, α_{Zr} = 320 and α_{Hf} = 21, were obtained at an HNO_3:$HClO_4$ ratio of 1:5. If this ratio is changed in favor of HNO_3 the extraction by $HClO_4$ drops, and it becomes practically zero at HNO_3 concentrations above 3 moles/liter. Suggested explanations of the strong increase in the distribution coefficients for extraction from solutions containing HNO_3 + $HClO_4$ are: (1) Formation of mixed complexes of the type $Zr(NO_3)_x(ClO_4)_{4-x}\cdot 2TBP$; (2) in $HClO_4$ solutions, the degree of poly-

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Extraction of zirconium and ...

merization of nitric Zr is lower than in HNO_3 solutions; (3) effect of the acid activity coefficients being changed in mixed solutions; (4) presence of free TBP in the organic phase at HNO_3 concentrations up to 2 moles/liter in the aqueous phase; this phenomenon will be the subject of further studies. There are 1 figure and 1 table.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov). Kafedra tekhnologii redkikh i rasseyannykh elementov (Department of Technology of Rare and Trace Elements)

SUBMITTED: January 22, 1962

S/080/62/035/003/007/024
D258/D302

AUTHORS: Gel'perin, N. I., Assmus, M. G., and Korovin, S. S.

TITLE: Recovery of gallium by the method of liquid extraction in a continuously operated injector column

PERIODICAL: Zhurnal Prikladnoy khimii, v. 35, no. 3, 1962, 516-519

TEXT: The authors investigated the continuous, liquid-liquid extraction of gallium from aqueous solutions of a copper-bearing residue obtained in the course of aluminum electro-refining. A solution containing Ga (0.48 g/l), H_2SO_4 (7.2 N), Cl^- (67.7 g/l) and also V, Al, $SO_2^=$, Fe, Mo, Cu and SiO_2 was brought up to a Cl^- content of 96.6 g/l and diluted until its H_2SO_4 concentration was 6 N. This solution and butyl acetate were injected, counter-currently and continuously, at the top and bottom, respectively, of a 900 mm column designed by N. I. Gel'perin and coworkers (Ref. 1: Khim. nauka i prom. 5, 560, (1956)). The gallium-bearing extract was continu-

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ously withdrawn near the top. Recovery of gallium varied slightly with the volume ratio of butyl acetate to aqueous solution, namely, from 96% at a ratio of 0.23 to 99.5% at 0.92. The increase in phase ratio was accompanied by a decrease in the Ga concentration in the extract - from 2.062% at the lowest mentioned ratio to 0.619% at the highest one; at the same time, Ga in the aqueous phase decreased from 0.014% to 0.005%. The withdrawal of samples at different points of the column showed an almost linear relationship of solvent concentration with column height. The same column was used for the re-extraction of Ga from butyl acetate by means of water; a complete recovery was achieved with a water/acetate ratio of 0.20. Adaptation to industrial plant scale was discussed. There are 3 figures, 2 tables and 3 Soviet-bloc references.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii M. V. Lomonosova (The Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov)

SUBMITTED: July 11, 1960

S/020/62/143/006/024/024
B101/B110

AUTHORS: Reznik, A. M., Rozen, A. M., Korovin, S. S., and Apraksin, I. A.

TITLE: Extraction of zirconium and hafnium from solutions containing nitric and hydrochloric acids

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962, 1413-1416

TEXT: The extraction of large amounts (5 - 40 g/l) of Zr and Hf from HNO_3, HCl, and HNO_3+HCl solutions (total acidity, 5 moles/l) with a 50% solution of tri-n-butylphthalate (TBP) in o-xylene was studied. On the basis of the reaction $Me^{4+} + 4A^- + 2TBP \rightleftarrows MeA_4 \cdot 2TBP$ (1), the apparent extraction constants were obtained as $\tilde{K} = \alpha/A^4T^2$, where α is the distribution coefficient; Me stands for Zr or Hf; A^- is the anion concentration, moles/l; and T is the concentration of free TBP. The rapid decrease of $\tilde{K}_{Zr}$ and $\tilde{K}_{Hf}$ with increasing concentration of Zr and Hf

Card 1/4

Extraction of zirconium and hafnium ...

is attributed to the formation of a non-extractable polymer as a result of chain reaction: $A_1 + A_n \overset{K_n}{\rightleftharpoons} A_{n+1}$, where n = 1,2,3,.... . According to I. Prigogine and R. Defay (Chemical Thermodynamics, London - N. Y. - Toronto, 1954) the following values were obtained: $K_n^{Zr} \approx 8$ and $K_n^{Hf} \approx 29$ in HNO_3, and $K_n^{Zr} \approx 13$ and $K_n^{Hf} \approx 3$ in HCl. A dependence of α_{Zr} and α_{Hf} on the HNO_3: HCl ratio was observed with HNO_3+HCl mixtures (Fig. 3). For constant values of $\tilde{K}_1$ (in HNO_3) and $\tilde{K}_2$ (in HCl) one obtains $\alpha_{Zr} = \left\{\tilde{K}_1\left[(H^+) - (Cl^-)\right]^4 + \tilde{K}_2(Cl^-)^4\right\}T^2$ (A). This equation does not correspond to the experimental course of the curves. It is assumed that besides reaction (1), also the following reaction takes place: $Zr^{4+} + (4-i)NO_3^- + iCl^- + 2TBP \overset{\tilde{K}_i}{\rightleftharpoons} Zr(NO_3)_{4-i}Cl_i \cdot 2TBP$ (i = 1-3). The complexes $Zr(NO_3)_3Cl \cdot 2TBP$ and $Zr(NO_3)_2Cl_2 \cdot 2TBP$ were found in the organic phase. $\tilde{K}_i$ is defined by $\tilde{K}_i = 4!\tilde{K}_1^{i/4}\tilde{K}_2^{/4-i/4}/(4-i)!i!$, where

$\tilde{K}_1$ and $\tilde{K}_2$ are the constants of formation of the solvates $Zr(NO_3)_4 \cdot 2TBP$ and $ZrCl_4 \cdot 2TBP$, respectively. Hence, $\alpha_{Zr} = \left[\sqrt[4]{\tilde{K}_1}\,(NO_3^-) + \sqrt[4]{\tilde{K}_2}(Cl^-)\right]^4 T^2$ (2). This equation does not correspond to the experimental data either. When passing over from the apparent constants to thermodynamic constants ($K = \tilde{K} f_{\pm}^{5}$), one obtains Eq. (2), the right-hand side of which is multiplied by $f_{\pm}^{-5}$. The correctness of attributing the extraction maximum of Zr to an increasing activity coefficient has to be verified by determining $f_{\pm Zr}$ in mixed media. As maximum Zr extraction is accompanied by the extraction of a small amount of hafnium with increasing HCl content, $\beta = \alpha_{Zr}/\alpha_{Hf}$ passes through a maximum: $\beta \sim 85$ at ~ 1.3 mole/l of HCl + ~ 3.7 moles/l of HNO_3. This makes it possible to separate Zr from Hf. There are 4 figures and 1 table.

Card 3/5

Extraction of zirconium and hafnium ...

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

PRESENTED: December 18, 1961, by S. I. Vol'fkovich, Academician

SUBMITTED: December 11, 1961

Fig. 3 (a) α_{Zr} as a function of the ratio of HNO_3 to HCl in aqueous phase (HNO_3 + HCl = 5 moles/l); (б) idem for α_{Hf}. Concentration of MeO_2(g/l): (1) 5;(2) 10; (3) 15; (4) 20; (5) 25; (6) 30; (7) 40; ------ = curve according to Eq. (A); -.-.-.- = curve according to Eq. (2). Legend: abscissa, moles/l.

Card 4/5

REZNIK, A.M.; ROZEN, A.M.; KOROVIN, S.S.; APRAKSIN, I.A.

Extraction of zirconium and hafnium with n-tributyl phosphate from solutions containing nitric and hydrochloric acids.
Radiokhimiia 5 no.1:49-59 '63. (MIRA 16:2)
(Zirconium) (Hafnium)
(Butyl phosphates)

S/078/63/008/001/022/026
B124/B186

AUTHORS: Apraksin, I. A., Korovin, S. S., Reznik, A. M., Rozen, A. M.

TITLE: Extraction of hydrochloric acid with n-tributyl phosphate

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 1, 1963, 237 - 244

TEXT: The purpose of this study was to determine accurately the solvation number for the extraction of HCl with tributyl phosphate (TBP) and to describe quantitatively the equilibrium. The solvation number was determined for a HCl concentration of 6.0 and 8.8 mole/l in the aqueous equilibrium phase by means of dilution with o-xylene; the distribution of HCl between water and 50% TBP solution in o-xylene for 1 - 10 mole/l HCl in the aqueous phase was also investigated. The formation of HCl·TBP monosolvate was proved, while the formation of disolvate mentioned in publications could not be confirmed. Best agreement of the calculated values for the extraction isotherm with experimental values was reached on the assumption that the hydrosolvate HCl·TBP·nH_2O (n = 2 - 3) is extracted with HCl concentrations in the aqueous phase below 9.0 mole/l, and the solvate 2HCl·TBP with HCl concentrations above 9.0 mole/l in the aqueous phase. This is also

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proved by calculation, it being assumed that initially, at low acidities, the disolvate HCl·2TBP is also formed, besides the monosolvate. The fact that the calculated curve practically agrees with the experimental one obtained for HCl concentrations between 1 and 9 mole/l shows that the agreement mentioned does not in itself prove the validity of the conceptions as to the mechanism of the process. There are 3 figures and 3 tables. The most important English-language references are: H. Irving, D. H. Edgington, J. Inorg. Nucl. Chem., 10, 306 (1959); E. Hesford. H. A. C. Mc Kay, J. Inorg. Nucl. Chem., 13, 156 (1960).

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova, Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov (Moscow Institute of Fine Chemical Technology imeni Lomonosov, Department of Chemistry and Technology of Rare and Dispersed Elements)

SUBMITTED: March 6, 1962

S/078/63/008/004/010/013
A059/A126

AUTHORS: Rozen, A.M., Reznik, A.M., Korovin, S.S., Metonidze, Z.A.

TITLE: The extraction of nitric acid from a mixture with hydrochloric acid with n-tributyl phosphate

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 4, 1963, 1,003 - 1,010

TEXT: The results of studies performed on the joint extraction of HNO_3 and HCl by a 50% solution of tributyl phosphate (TBP) in o-xylene at HNO_3 concentrations between 0.25 and 4.0 moles/liter and HCl concentrations between 0.5 and 2.5 - 6 moles/liter are given. The fact that HCl in the presence of HNO_3 is not extracted throughout the whole concentration range studied is ascribed to the fact that the extraction constant of HNO_3 ($K \approx 0.2$) is by two orders in excess of that of HCl ($K \sim 10^{-3}$) so that HNO_3 expels HCl from the organic phase. Extraction of HNO_3 is considerably increased by the addition of HCl which means that HCl acts as a salting-out agent in this case. This is shown to be due to the increase in the activity coefficients of HNO_3 in the aqueous phase when HCl is present. The activity coefficient, $\gamma_{\pm}^{1}$ HNO_3, of HNO_3 in the presence of HCl

The extraction of nitric acid from a ....

is calculated from the equation:

$$\gamma'_{\pm HNO_3} = \sqrt{\frac{\tilde{K}}{K}}, \qquad (4)$$

where $\tilde{K}$ is the apparent and K the effective extraction constant. It is found that the Harden equation:

$$[\log \gamma_{\pm}(x, m) - \log \gamma_{\pm}(x, 0)]_{J=const} = -\delta_s J_s \qquad (5)$$

is satisfied, where $\gamma_{\pm}(x, m)$ is the activity coefficient in the presence of m moles of the salting-out agent, $\gamma_{\pm}(x, 0)$ the activity coefficient in the absence of the salting-out agent, but at the same total ionic strength of the solution, m is the concentration and J_s the ionic strength of the salting-out agent, and δ_s is the Harden coefficient depending on the characteristics of the salting-out agent. The mean value of the Harden coefficient was found to be $\delta_{HCl} = -0.028 \pm 0.001$. The equation of A.M. Rozen [Atomnaya energiya, v. 2, 445 (1957)]:

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$$\log \gamma_{\pm}(x, m) - \log \gamma_{\pm}(x, 0) = (\delta^* - \delta_s) J_s, \quad (7)$$

where δ^* is a constant value is found to hold. The increase in the activity coefficients of HNO_3 in the presence of HCl is explained by the stronger hydration degree of the latter ($n_{HCl} = 8$, while $n_{HNO_3} = 5$). The calculated activity coefficients of HNO_3 in the presence of HCl were found to agree satisfactorily with the respective experimental results. There are 9 figures and 2 tables.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova, Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov (Moscow Institute of Fine Chemical Technology imeni Lomonosov, Department of Chemistry and Technology of Rare and Trace Elements)

SUBMITTED: July 4, 1962

APRAKSIN, I.A.; KOROVIN, S.S.; MUSORIN, V.A.; REZNIK, A.M.; ROZEN, A.M.

Extraction of nitric acid by tributyl phosphate in the presence of hydrobromic acid. Zhur. neorg. khim. 9 no.5: 1295-1296 My '64. (MIRA 17:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova kafedra khimii i tekhnologii redkikh i rasseyannykh elementov.

LEBEDEVA, Ye.N.; KOROVIN, S.S.; ROZEN, A.M.

Extraction method of studying the polymerization of hafnium in nitric acid solutions. Zhur. neorg. khim. 9 no.7:1744-1757 Jl '64. (MIRA 17:9)

L 15167-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWP(b) Pr-4/Ps-4 APMDC RM/JW/
JD/JG

ACCESSION NR: AP4043584 S/0078/64/009/008/2023/2024

AUTHOR: Aparaksin, I. A.; Glubokov, Yu. M.; Korovin, S. S.; Reznik, A. M.

TITLE: Extraction of hafnium with n-tributylphosphate from nitric acid solutions in the presence of fluoride ions.

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 8, 1964, 2023-2024

TOPIC TAGS: hafnium, extraction, tributylphosphate extraction, fluoride ion, zirconium extraction, hafnium fluorine complex, zirconium fluorine complex

ABSTRACT: The extraction of hafnium by n-tributylphosphate (TBP) from nitric acid solutions containing varying amounts of fluoride ion was investigated. Extraction was conducted with 50% TBP from 5M HNO_3 containing 0.285 M Hf and varying F^- up to 1.139M. The concentration of Hf in the organic phase reached a maximum when the F:Hf molar ratio was 1:1, with further addition it dropped sharply, until with F:Hf = 3:1 there was no Hf in the organic phase. It was concluded the interaction of F with Hf (or Zr) in aqueous solutions

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L 15167-65

ACCESSION NR: AP4043584

determined the extractive behavior of these elements. The 1:1 complex appeared to have the maximum solubility; at a F:Hf ratio of 2:1 the solubility was significantly reduced. Orig. art. has: 1 figure and 1 table

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im M. V. Lomonosova Kafedra khimii i tekhnologii redkikh i rasseyanny*k ele- (Moscow Institute of Fine Chemical Technology, Department of Chemis- Technology of the Rare Elements)

SUBMITTED: 04Nov63 ENCL: 00

SUB CODE: GC NO REF SOV: 004 OTHER: 000

Card 2/2

GEL'PERIN, N.I.; KOMISSAROVA, L.N.; YURCHENKO, L.D.; MIRONENKO, A.P.; KOROVIN, S.S.

Extraction of zirconium and hafnium from hydrochloric acid solutions by acetophenone. Izv. vys. ucheb. zav.; khim. i khim. tekh. 8 no.3:402-406 '65. (MIRA 18:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova, kafedra khimii i tekhnologii redkikh i rasseyannykh elementov.

KOROVIN, S.S.; LEBEDEVA, Ye.N.; DEDICH, K.; REZNIK, A.M.; ROZEN, A.M.

Extraction of nitric and perchloric acids from their mixtures by n-tributyl phosphate. Zhur. neorg. khim. 10 no.2:518-523 F '65. (MIRA 18:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova, kafedra khimii i tekhnologii redkikh i rasseyannykh elementov. Submitted April 15, 1964.

KOROVIN, S.S.; KOL'TSOV, Yu.I.; REZNIK, A.M.; APRAKSIN, I.A.

Extraction of hydrofluoric acid with tri-n-butyl phosphate. Zhur.neorg.khim. 11 no.1:180-183 Ja '66.

(MIRA 19:1)

1. Kafedra tekhnologii redkikh i rasseyannykh elementov Moskovskogo instituta tonkoy khimicheskoy tekhnologii imeni Lomonosova. Submitted November 10, 1964.

L 47205-66

ACC NR: AP6027192 SOURCE CODE: UR/0078/66/011/008/1910/1913

AUTHOR: Korovin, S. S.; Yurkin, V. G.; Mironenko, A. P.

ORG: Department of Technology of Rare and Trace Elements, Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Kafedra tekhnologii redkikh i rasseyannykh elementov, Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Extraction of boric acid with tri-n-butyl phosphate

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 8, 1966, 1910-1913

TOPIC TAGS: boric acid, phosphate

ABSTRACT: The object of the work was to determine the extractability of boric acid with tri-n-butyl phosphate (TBP) and the extent to which it is affected by concentration, temperature, acidity and presence of salts. Use of the method of extractant dilution showed that the extraction involves the formation of a solvate according to the equation

$$H_3BO_3 + 2TBP \rightleftharpoons H_3BO_3 \cdot 2TBP.$$

The heat of this reaction was found from the equation

$$\frac{d \ln K}{dT} = \frac{\Delta H}{RT^2}$$

Card 1/2 UDC: 546.273-325.04:542.61

L 47205-66

ACC NR: AP6027192

by determining the equilbirium constant at several temperatures; $\Delta H = -0.48$ and -0.53 kcal/mole at boric acid concentrations of 0.51 and 1.35 g/l respectively. The distribution of boric acid in the presence of HCl, HNO_3, $HClO_4$, H_2SO_4 and HF was studied; a slight acidification (< 0.1 N) of the boric acid solution decreases its extraction into the organic phase for reasons as yet unknown. Further acidification produces a salting-out effect. In the presence of the salt MgCl, the distribution coefficient of boric acid increases, and at a constant concentration of the salting-out agent it remains constant. Orig. art. has: 4 figures and 2 formulas.

SUB CODE: 07/ DATE SUBM: 10Nov64/ ORIG REF: 005/ OTH REF: 001

Card 2/2 fv

KOROVIN, S. YE.

Korovin, S. Ye.

"The flora of the Tashkent Ala-Tau which offer possibilities for introduction(an attempt at ecological-historical analysis)." Published by the Central Asia State U. Min Higher Education USSR. Central Asia State U imeni V. I. Lenin. Tashkent, 1956 (Dissertation for the degree of Candidate in Biological Sciences)

Knizhnaya letopis'
No. 25, 1956. Moscow

KOROVIN, S.Ye.

Guide to the Moscow State University Botanical Garden "Moscow State University Botanical Garden; a guidebook." Reviewed by S.E. Korovin. Biul.Glav.bot.sada no.27:122-124 '57. (MLRA 10:5)

1.Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Moscow--Botanical gardens)

GERASIMOV, M.V.; KOROVIN, S.Ye.

Structure of seed catalogs with regard to plant introduction.
Biu. Glav. bot. sada no.31:118-123 '58. (MIRA 12:5)

1.Glavnyy botanicheskiy sad AN SSSR.
(Seeds--Catalogs) (Plant introduction)

KOROVIN, S.Ye., kand.biolog.nauk; TIMPKO, V.A., kand.biolog.nauk; TIKHONENKO, I.I.; KONDRAT'YEVA, T.V.; SMYCHNIKOVA, T.V.; TSITSIN, N.V., akademik, otv.red.; FORTUNATOV, I.K., red. izd-va; GUSEVA, A.P., tekhn.red.

[Botanical gardens of the world; brief manual] Botanicheskie sady mira; kratkii spravochnik. Moskva, Izd-vo Akad.nauk SSSR, 1959. 102 p. (MIRA 12:10)

1. Moscow. Glavnyy botanicheskiy sad. 2. Direktor Glavnogo botanicheskogo sada AN SSSR (for TSitsin).
(Botanical gardens)

KOROVIN, S.Ye., kand.biol.nauk; VALISHINA, V.P.

Exchange of seed collections by scientific institutions, schools, and young naturalist stations. Biol.v shkole no.5:77-78 S-O '59. (MIRA 13:8)

1. Glavnyy botanicheskiy sad AN SSSR.
(Seeds)
(Botany--Audio-visual aids)

KOROVIN, S.Ye.

A new form of sweet clover, Biul. Glav. bot. sada no.34:78-79 '59. (MIRA 13:3)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Ulan-Khol region--Sweet clover)

KOROVIN, S.Ye.

Some anthropogenic changes in the vegetation of the western Tien Shan.
Bot. zhur. 44 no.4:475-482 Ap '59. (MIRA 12:10)

1.Glavnyy botanicheskiy sad Akademii nauk SSSR, Moskva.
(Tien Shan--Plant communities)

KOROVIN, S.Ye.; LAVROV, B.V.

In the Council of the Botanical Gardens. Biul.Glav.bot.sada no.37: 130-131 '60. (MIRA 13:11)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Botanical gardens)

LAPIN, P.I.; KOROVIN, S.Ye.

Botanical garden in Aburi (Ghana, Africa). Biul. Glav. bot. sada no. 38:109-111 '60. (MIRA 14:5)

1. Glavnyy botanicheskiy sad AN SSSR.
(Aburi--Botanical gardens)

KOROVIN, S.Ye.; ANDREYEV, L.N.

Moscow Branch of the All-Union Botanical Society. Biul. Glav. bot. sada no. 38:112-113 '60. (MIRA 14:5)

1. Glavnyy botanicheskiy sad AN SSSR.
(Moscow—Botanical societies)

LAPIN, P.I.; KOROVIN, S.Ye.

First Indian-Soviet botanical expedition. Biul. Glav. bot. sada no.41:123-125 '61. (MIRA 14:11)

1. Glavnyy botanicheskiy sad AN SSSR.
(India—Botany)

KOROVIN, E.Ye. (Moskva)

A review of F.S.Pervukhin's article "Polygonum coriarium Girg., a new tannin plant," (no.9, 1959). Bot.zhur. 46 no.6:909-910 Je '61. (MIRA 14:6)

(Knotweed) (Tannins) (Pervukhin, F.S.)

LAPIN, P.I., kand.biolog.nauk; KOROVIN, S.Ye., kand.biolog.nauk

Indian-Soviet botanical expedition. Vest. AN SSSR 32 no.1:103-109 Ja '62. (MIRA 15:1)

(India--Botany)

KOROVIN, S.Ye.

One site of the development of new forms of plants in Central Asia. Biul. Glav. bot. sada no.45:47-53 '62. (MIRA 16:2)

1. Glavnyy botanicheskiy sad AN SSSR.
(Soviet Central Asia—Fruit trees)
(Hybridization, Vegetable)

KOROVIN, S. Ye.

Flora of the Tashkent Ala-Tau from the point of view of introduction. Trudy Glav. bot. sada 9:38-109 '63. (MIRA 16:5)

(Tashkent Ala-Tau--Botany--Ecology) (Plant introduction)

KOROVIN, S.Ye.

Council on Botanical Gardens of the U.S.S.R. Biul Glav.bot. sada no. 48:120-122 '63. (MIRA 17:5)

1. Glavnyy botanicheskiy sad AN SSSR.

KOROVIN, S.Ye.; VELIKANOV, L.P.; ABDULLAYEV, M.A.

New form of large-fruited cherry plum from the western Tien Shan. Biul. Glav. bot. sada no.55:123-126 '64. (MIRA 18:11)

1. Glavnyy botanicheskiy sad AN SSSR.

KOROVIN, T. D.

Kuznetsk Basin - Coal Mines and Mining

Rapid sinking of a vertical mine shaft in the Kuznetsk Basin. Ugol' 27 No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

1. KOROVIN, T. D., Eng.

2. USSR (600)

4. Shaft Sinking

7. Shaft sinking on a twenty-four hour schedule. Mekh. trud. rab. 7, No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. KOROVIN, T. D.

2. USSR (600)

4. Kuznetsk Basin-Coal Mines and Mining

7. Meeting on production and technology of the Kuznetsk Basin Mine Construction Combine of the Ministry of the Coal Industry. Biul. stroi. tekh. 10 no.6, 1953

9. **Monthly List of Russian Accessions**, Library of Congress, June 1953. Unclassified.

KOROVIN, T.D.; SHARAYEV, A.N.; GMEDIN, V.Ye., redaktor; KOROVENKOVA, Z.A., tekhnicheskiy redaktor.

[In an advanced sector of the Kuznetsk coal fields; sector no.5, mines no.3 - 3a of the Stalinugol' trust] Na peredovom uchastke Kuzbassa; uchastok no.5 shakhty no.3 - 3-bis tresta Stalinugol'. Moskva, Ugletekhizdat, 1954. 32 p. (MIRA 8:5)
(Kuznetsk Basin--Coal mines and mining)

KOROVIN,T. inzhener; FAYNER,I. inzhener

Same shields but varying results. Mast. ugl. 4 no.3:10-11 Mr '55. (MLRA 8:6)
(Kuznetsk Basin--Coal mines and mining)

KOROVIN, TROFIM DMITRIYEVICH

SHARAYEV, Anatoliy Nikolaevevich; KOROVIN, Trofim Dmitriyevich; VESKOV, M.I., otvetstvennyy redaktor; SHUSHKOVSKAYA, Ye.L., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskiy redaktor

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Improving systems of mining with fill in mines of the Prokop'yevsk-Kiselevsk area. Izv. vys. ucheb. zav.; gor. zhur. no.9: 29-37 '61. (MIRA 15:10)

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Increase the fight against coal losses during mining in Kuznetsk Basin mines. Razved.i okh. nedr 29 no.1:43-46 Ja '63. (MIRA 16:2)

1. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut.
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Prospects for operations with filling of the worked-out area in Kuznetsk Basin mines. Ugol' 38 no.1:13-15 Ja '63. (MIRA 18:3)

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Ways to decrease traumatism in mines of the Prokop'evskugol' Trust in the Kuznetsk Basin. Bezop. truda v prom. 8 no.9:4-7 S '64 (MIRA 18:1)

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Frost resistance of new apple rootstocks bred along clone lines.
Nauch.dokl.vys.shkoly: biol.nauki no.4:206-210 '60. (MIRA 13:11)

1. Rekomendovana kafedroy plodovodstva Michurinskogo plodo-
ovoshchnogo instituta im. I.V.Michurina.
(APPLE)
(GRAFTING)
(PLANTS--FROST RESISTANCE)

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Dropping of branches in the poplar. Priroda no.6:68 Je '60. (MIRA 13:6)

1. Plodoovoshchnoy institut im. I.V. Michurina, Michurinsk.
(Poplar)

KOROVIN, V., starshiy leytenant.

Selecting and amplyfying device. Tankist no.1:26-27 Ja '58.
(Fire control (Gunnery)) (MIRA 11:3)
(Military telephone--Equipment and supplies)

KOROVIN V.

ASTRETSOV, V.; KOROVIN, V.; DUBROVIN, N.

Readers comments on S.I. Shcherbakov's book "Milling wheat and rye." Reviewed by E.Lykov, V.Astretsov, V.Korovin, N.Dubrovin. Muk.-elev.prom. 20 no.8:30-31 Ag '54. (MLRA 7:9)
(Wheat milling) (Rye milling) (Shcherbakov, S.I.)

SOV/96-58-5-9/27

AUTHORS: Korovin, V.A., Engineer, Kostrinkin, Yu.M., Candidate of Technical Sciences and Taratuta, V.A., Solov'yeva, V.P., Engineers

TITLE: A Spectro-photometric Method of Controlling the Water Conditions in Thermal-power Equipment (Spektrofotometricheskiy metod kontrolya vodnogo rezhima v teplosilovom khozyaystve)

PERIODICAL: Teploenergetika, 1958, Nr 5, pp 46 - 49 (USSR)

ABSTRACT: At present two methods are used to determine the salt content of steam and condensate; one is by ionic analysis and the other by measurement of electrical conductivity. The disadvantages of these methods are described and the use of spectro-photometer is recommended. The technique for the determination of elements such as sodium, potassium and calcium is indicated in general terms.
The article then describes a simple flame spectro-photometer installation assembled at the All-Union Thermo-technical Institute. It can be made up in any power-station laboratory. The equipment is illustrated diagrammatically in Figure 1; its construction and method of operation are described. It was used to determine sodium in solution at concentrations ranging

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from 0.1 mg/litre to some hundreds of milligrams per litre. A special three-channel burner was used; it is illustrated in Figure 2. Detailed operating instructions for the instrument are then given, including calibration with standard solution and the method of working out the results.
The entire process of determining sodium content in samples, for example, in acid concentrations or in other liquids, can be completed in 5 - 10 minutes, including the time necessary to plot the graphs. The accuracy is of the order of ± 5%, similar to that of a good photo-calorimeter.
There are 2 figures and 4 Soviet references.

ASSOCIATION: VTI

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3. Feed water--Analysis 4. Spectrophotometers--Applications